REMARKS

Claims 1-33 are pending in the present application. Claims 1-33 have been canceled and claims 34-66 have been added to replace the cancelled claims. Reconsideration of the claims is respectfully requested.

The examiner is thanked for the favor of an interview. The examiner and the undersigned agent discussed clarifications to the claims that would point out the uniqueness of the claimed invention. The independent claims have specifically been rewritten to clarify what is meant by an atomic operation (non-interruptible) and by a lock being uncontested (not already locked).

I.   35 U.S.C. § 102 (Anticipation) / 103 (Obviousness)

Claims 1-7, 10-18, 21-29, 32, 33 stand rejected under 35 U.S.C. § 102 as being anticipated by **Hammersly** *et al.* (U.S. Patent No. 5,392,433). This rejection is respectfully traversed.

Additionally, claims **8, 9, 19, 20, 30** and **31** stand rejected under 35 U.S.C. 103(a) as being obvious over Hammersly in view of IBM Technical Disclosure Bulletin, February 1995 (hereinafter IBM).

Representative claim 34, which replaces claim 1, reads,

> 34. A method for acquiring a lock on a system resource in a computer system, the method comprising:
>   assigning a first memory location to a first system resource, such that a number stored at said first memory location indicates whether said first system resource is locked;
>   performing an atomic operation that (a) determines if said first memory location contains a first value, indicating that said system resource is not locked and (b) if said first memory location contains said first value, stores a second value, indicating that said first system resource is locked, wherein said atomic operation is non-interruptible; and
>   if said first memory location does not contain said first value, transferring control to a different operation that will contend for the lock for said first system resource.

As noted above, this claim and the other independent claims now recite that the atomic operation, which seeks to acquire a lock on the system resource very quickly, is <u>not</u> <u>interruptible</u>. This claim, as well as the other independent claims, also recites that the atomic operation checks to see if the resource is currently <u>unlocked</u> rather than the former recitation of checking to see if the resource is <u>uncontested</u>. These changes to the claims

are meant to more clearly recite the differences between Hammersly and the current invention.

It is submitted that Hammersly does not appear to discuss that any of the operations of acquiring the desired lock are uninterruptible. Neither does Hammersly discuss that there is more than one method of acquiring a lock.

This is in contrast to the present invention in which two methods are disclosed: a fast method and a slow method. The fast method uses a non-interruptible operation to attempt to acquire the lock if the resource is not already locked. Because this method is so fast, the originating process can be allowed to wait for a response. The slow method is the conventional method of contention, in which the originating process is generally moved out of memory while waiting for the response.

Thus, it is submitted that independent claim 34, as well as independent claims 45 and 56, is now allowable. Additionally, it is submitted that dependent claims 35-44, 46-55, and 57-66 inherit the allowability of their independent claims.

The examiner's attention is specifically drawn to dependent claim 36, which recites, "*wherein a program or process that initiates said atomic operation can wait for a response from said atomic operation without giving up control of a processor on which it is running*". This recitation provides additional distinctions over the cited prior art Hammersly is not dealing with atomic operations that are uninterruptible, so allowing a program to retain control during what can be a lengthy process of acquiring a lock would be very destructive in terms of response time in a system. However, because the presently claimed invention can give a very fast determination of whether the lock can be acquired immediately, the program can be allowed to wait for that response.

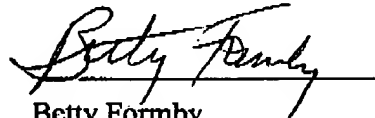It is asserted that all art rejections have now been overcome.

II.   Conclusion

It is respectfully urged that the subject application is patentable over Hammersly and the cited IBM technical disclosure and is now in condition for allowance.

The examiner is invited to call the undersigned at the below-listed telephone number if in the opinion of the examiner such a telephone conference would expedite or aid the prosecution and examination of this application.

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Respectfully submitted,

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